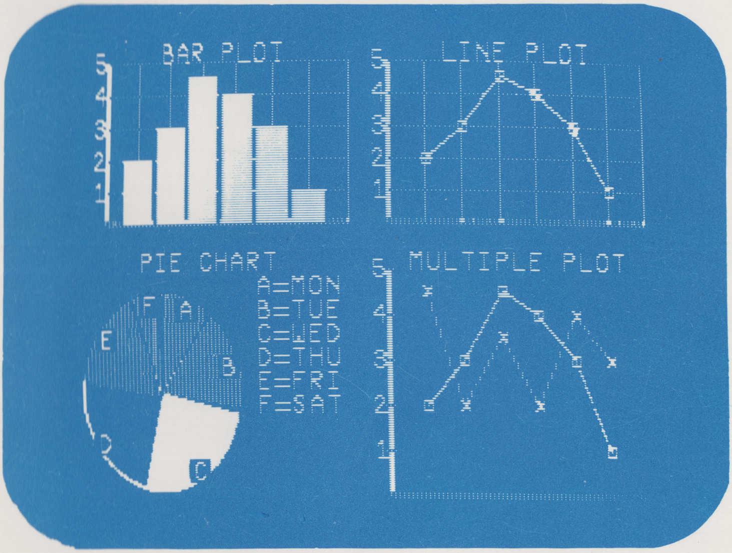
DATA-PLOT
GRAPH PROGRAM


BAR PLOT
5
4
3
2
1
LINE PLOT
5
4
3
2
1
PIE CHART
F
A
E
B
D
C
A=MON
B=TUE
C=WED
D=THU
E=FRI
F=SAT
MULTIPLE PLOT
5
4
3
2
1

MUSE SOFTWARE™

FOR APPLE II OR APPLE II PLUS
REQUIRES APPLESOFT ROM (48K)

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DATA PLOT™
Graphing Program

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Published by

MUSE SOFTWARE, Inc.
330 N. Charles Street
Baltimore, MD 21201

For Apple II or Apple II Plus
Requires 48K and Applesoft ROM

DO NOT UPDATE this disk with other versions of the disk operating system (DOS). If you do it will destroy this program disk.

DO NOT attempt to LOAD and then SAVE the programs on this disk. The Applesoft program has been split to allow for high resolution graphics, and saving it on disk will destroy the program.

REPLACEMENT - If this disk becomes worn or damaged within one year from date of purchase, Muse Software will gladly replace it. Send the damaged disk with proof of purchase and $10.00 to:

Muse Software
330 N. Charles Street
Baltimore, MD 21201

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CONTENTS

SUBJECT PAGE

Introduction 1
Loading the Program 2

Sample File 3
    Loading 3
    Examining the Data 5
    Plotting the Sample Data 7

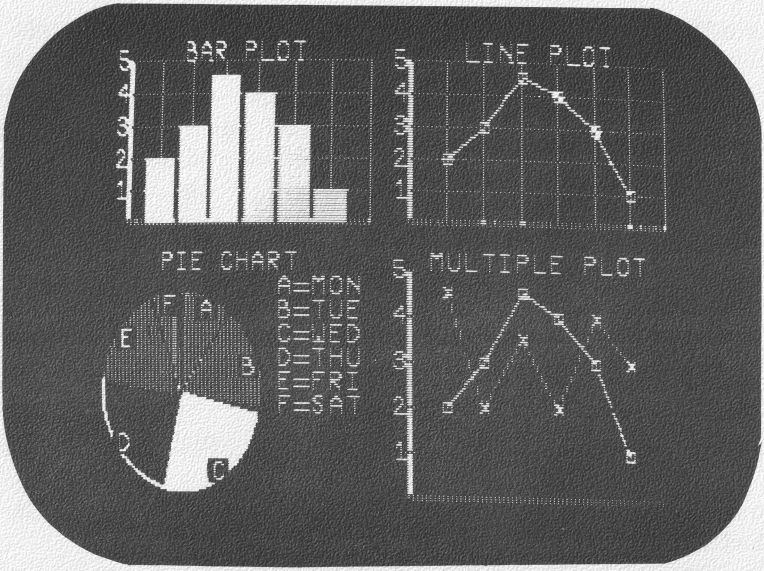
Clearing a File from Memory 8

Creating a New File 10
    File Identificaton 11
    Entering the Data 13

Saving Data Files 15

Plotting Graphs 16
    Bar Plot 17
    Line Plot 18
    Scatter Diagram 19
    Pie Chart 20
    Multiple Line Plots 21

Statistics 23
Graph Labeling 23
Saving Screen Pictures 26
File Editing 27
Printing 30
Disk Utilities 31
Scaling (Min and Max) 32
Displaying Screen Pictures (Picture Show) 34
Summary of Data Plot Functions 35
Trouble Shooting Guide 40



INTRODUCTION

Welcome to DATA-PLOT - the program that allows you to display numeric data in a variety of graphic forms. DATA-PLOT can produce a bar chart, line graph, scatter diagram, or pie chart of your data. Graphs and charts can be displayed on the screen, or printed on a Trendcom 200 or Silentype printer.

You can also save your data on the DATA-PLOT disk for future reference. After the data is saved, it can be recalled later to be displayed or changed.

LOADING THE PROGRAM

APPLE II PLUS OR APPLE II WITH APPLESOFT ROM

Insert the DATA-PLOT program disk and type PR#s (where s is the slot number of your disk drive) and press RETURN. For example, if your disk is in slot 6 type PR#6 and press RETURN.

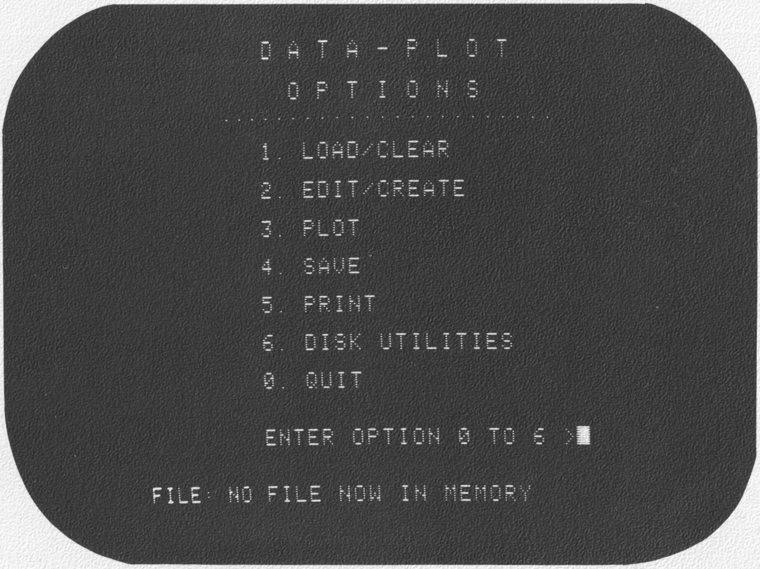
APPLE II WITH LANGUAGE CARD OR DOS 3.3 SYSTEM

Insert BASICS diskette into the drive, and turn the computer on. In a few seconds the screen will display:

```
INSERT BASIC (13 SECTOR) DISK AND PRESS RETURN KEY
```

Remove the BASICS diskette, then place the DATA-PLOT diskette into the drive and press RETURN .

After the program is loaded, the Main Menu will be displayed:



```
          D A T A - P L O T
            O P T I O N S
        .....................
          1. LOAD/CLEAR
          2. EDIT/CREATE
          3. PLOT
          4. SAVE
          5. PRINT
          6. DISK UTILITIES
          0. QUIT

          ENTER OPTION 0 TO 6 >█

     FILE: NO FILE NOW IN MEMORY
```

Select an option by entering a number from 0 to 6.

THE FIRST TIME YOU USE DATA-PLOT

Learning to use DATA-PLOT is easy. But before you learn DATA-PLOT's commands, let's run through a simple example.

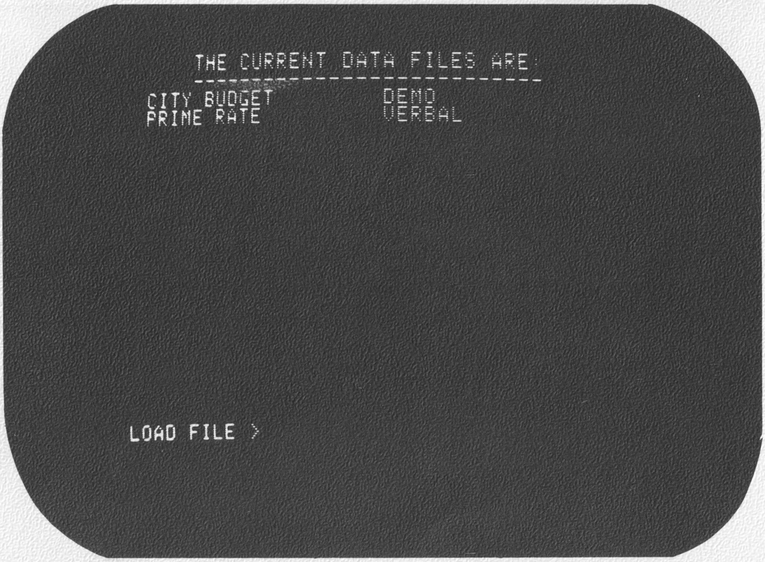
This example will show you how to load and plot a sample data file.

LOADING A SAMPLE FILE INTO MEMORY

From the Main Menu, press 1. You will briefly see the screen:

```
                 1. LOAD/CLEAR

                CLEARING MEMORY
```

DATA-PLOT will then display a catalog of the data files on the disk.



```
        THE CURRENT DATA FILES ARE:
        ---------------------------
    CITY BUDGET          DEMO
    PRIME RATE           VERBAL



  LOAD FILE >
```

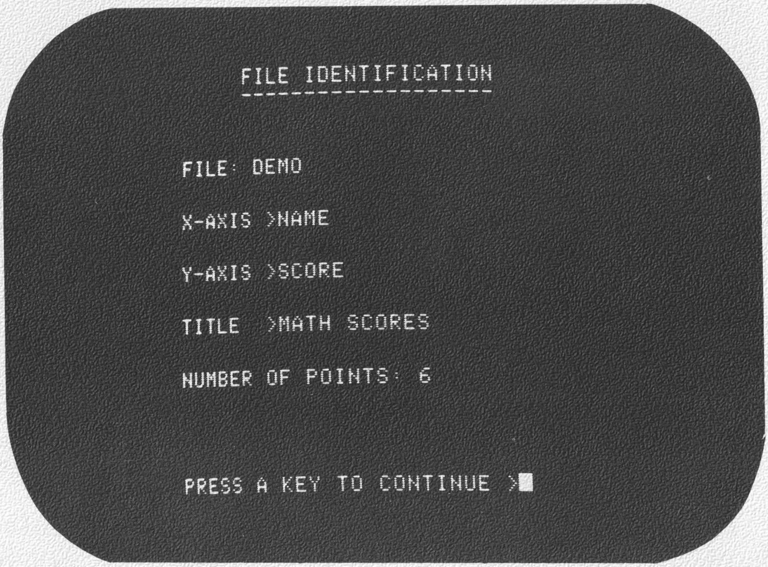
This display lists all the files that have been 'saved' on the DATA-PLOT disk.

The file titled DEMO is a file of sample data. We will use this file to demonstrate DATA-PLOT's basic functions.

Towards the bottom of the display, next to the word FILE, you will see a blinking square, called a cursor. This indicates that DATA-PLOT is waiting for your response. Type DEMO and press RETURN to "load" the file 'DEMO' from the disk into memory. Loading a file into memory enables you to examine or change the file's contents, and to graph it if you wish.

EXAMINING THE DATA

To examine the contents of the DEMO file, select option 2 from the Main Menu. After pressing 2, the File Identification page will be displayed. This display summarizes information about the file you just loaded.

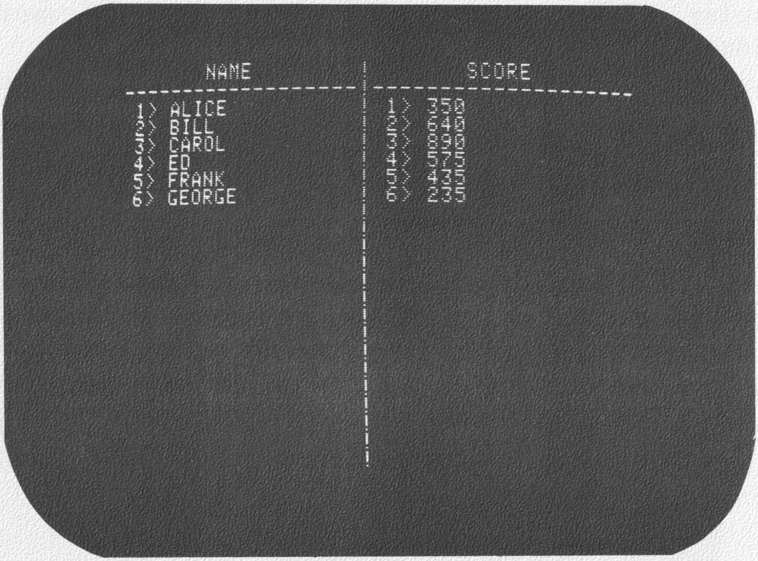


```
FILE IDENTIFICATION
-------------------

FILE: DEMO

X-AXIS >NAME

Y-AXIS >SCORE

TITLE  >MATH SCORES

NUMBER OF POINTS: 6


PRESS A KEY TO CONTINUE >█
```

Let's look at the first line, FILE: DEMO. This is the name we gave the demonstration file when it was created.

The next three lines show you how graphs of this file will be labeled. The x-axis and y-axis will be labeled NAME and SCORE, respectively. The title, which will appear at the top the graph, will be MATH SCORES. When you make graphs of your own information later on, you will decide these titles for yourself.

After examining the File Identification page, press RETURN to see the contents of the sample file. This display is called the Data Page. At this point you can edit, or makes changes in, the file.

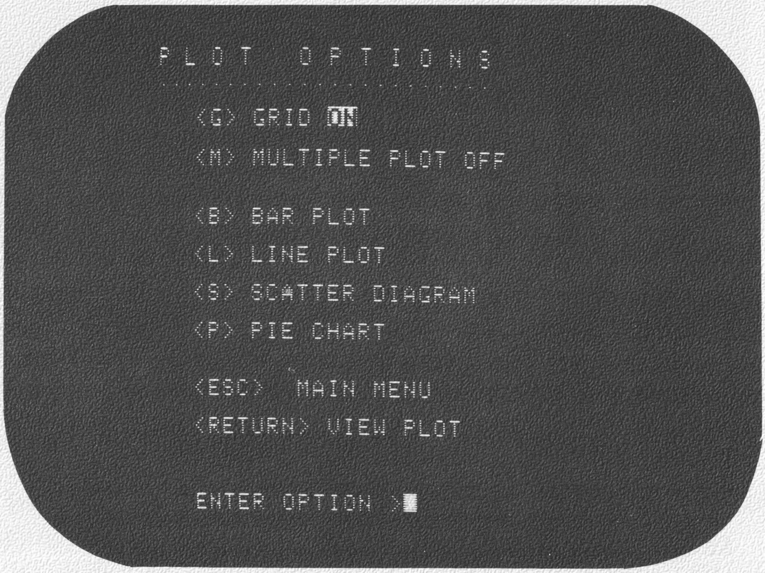


```
         NAME          |         SCORE
-----------------------|-----------------------
1> ALICE               |  1> 350
2> BILL                |  2> 640
3> CAROL               |  3> 890
4> ED                  |  4> 575
5> FRANK               |  5> 435
6> GEORGE              |  6> 235
```

Now let's see how DATA-PLOT will display this data in graphic form.

PLOTTING THE SAMPLE DATA

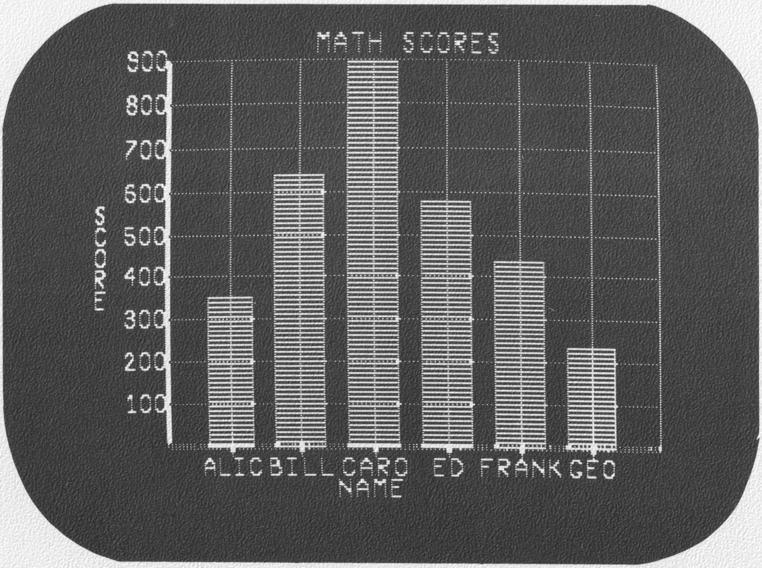
To plot the data, first return to the Main Menu by pressing the ESC key. Then press 3 to display the Plot Options page.



```
PLOT OPTIONS
............................

<G> GRID ON
<M> MULTIPLE PLOT OFF

<B> BAR PLOT
<L> LINE PLOT
<S> SCATTER DIAGRAM
<P> PIE CHART

<ESC>  MAIN MENU
<RETURN> VIEW PLOT

ENTER OPTION >█
```

Now, press B for Bar Plot. A bar plot of the DEMO file will be drawn on the screen. Notice that both axes have been labeled, the y-axis has been scaled from a minimum of 0 to a maximum of 900, and the title of the graph appears at the top of the page.

Note that the NAME column labels have been truncated to prevent overwriting.



Bar Plot of DEMO Data

After examining the graph press RETURN to exit to the Main Menu. It is also possible to produce a pie chart, line plot, or scatter diagram of the sample data. These options will be explained in the next part of this manual.

CLEARING A FILE FROM MEMORY

To clear the DEMO file from memory (this does NOT affect the information on the disk) return to the Main Menu by pressing ESC. Now press 1 to load a file, but when prompted for the FILE simply press RETURN to exit to the Main Menu display. This clears the current file from the computer's memory. At the bottom of the Main Menu page will now be displayed:

```
FILE: NO FILE NOW IN MEMORY
```

You are now ready to load or create a new file.

CREATING, PLOTTING, AND SAVING A FILE

In working with DATA-PLOT on a day-to-day basis, you must know how to do the following things:

- Enter your data into the system.
- Save data files for future reference.
- Plot your data in various graphic forms.
- Examine and edit files which were previously entered and saved.
- Print paper copies of DATA-PLOT graphs.

In this section, you will learn how to create a file, plot it, and save it. In the next section you will learn editing and printing techniques, and explore some special functions of DATA-PLOT.

HOW TO CREATE A FILE

When you enter data into the DATA-PLOT system, you are creating a file. It can then be saved on the disk, plotted on the screen or printed on paper.

Assume you are working with the following municipal budget.

City Budget

Department	Budget (Thousands)
1. ROADS	96
2. EDUCATION	201
3. FIRE/POLICE	190
4. SOC. SERV.	160
5. SANITATION	85
6. MISCELLANEOUS	45

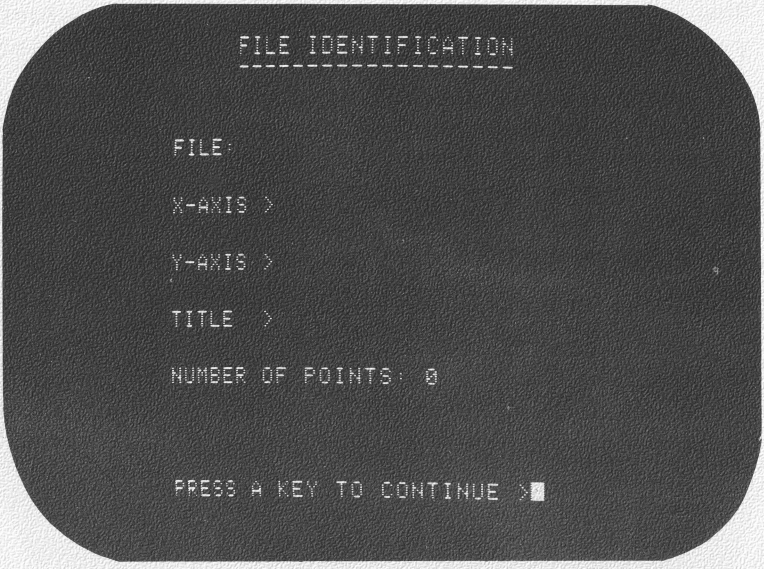
We will now show you how to enter this budget into the DATA-PLOT system.

Start at the Main Menu page. If the computer's memory is empty, the notation at the bottom of this display should read:

```
FILE: NO FILE NOW IN MEMORY
```

If it does not, press 1, then press RETURN. This will clear memory and the above message will appear.

ENTERING THE DATA. From the Main Menu, press 2 to display a blank File Identification page. This page summarizes information about the file you are creating.



```
          FILE IDENTIFICATION
          -------------------


     FILE:

     X-AXIS >

     Y-AXIS >

     TITLE >

     NUMBER OF POINTS: 0



     PRESS A KEY TO CONTINUE >
```

At this point you can enter three pieces of information: the title of the x-axis, the title of the y-axis, and the title of the graph. Here's how to do it:

Move the cursor (now blinking at the bottom of the page) up to the line marked X-AXIS. Do this by pressing the left-arrow key.

When you have moved the cursor up to the line marked X-AXIS, type in the word DEPARTMENT and press RETURN. This will be the title of the x-axis on any graphs that you make of this data. If you make a typing mistake, return to the beginning of the line by pressing the left arrow key. Then type directly over the line to correct it.

Now type in the words BUDGET (THOUSANDS) as the title of the y-axis and press RETURN.

Finally, enter the title of the graph, CITY BUDGET, and press RETURN. This will be the title of any graphs which you make of this data.

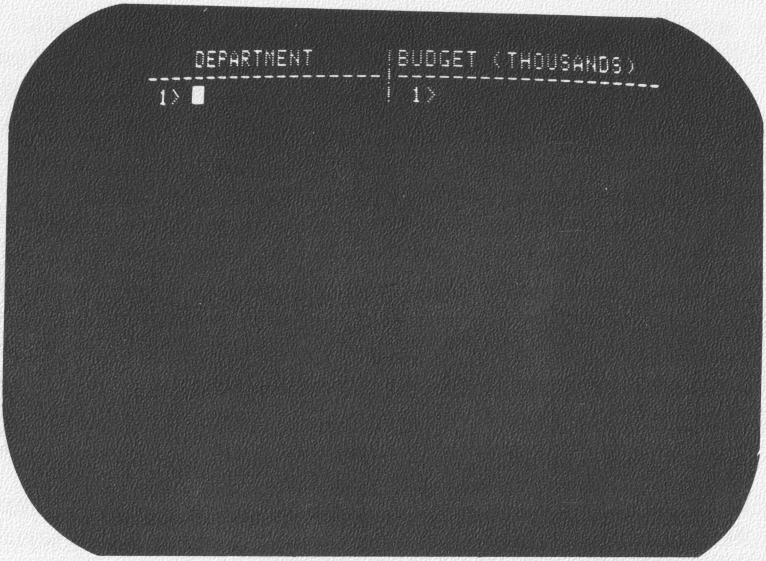
The x-axis title may be as long as 35 characters, the y-axis title is allowed a maximum of 18 characters, and the graph title is allowed 30 characters. The graph title will be centered, but it may be truncated to fit correctly. These three titles cannot contain any commas, colons, or semicolons.

Note that you have not filled in the line marked FILE and the line marked NUMBER OF POINTS. You will give your file a name later, if you decide to "save" it for future reference. The NUMBER OF POINTS will be filled in by DATA PLOT when you enter your data.

After you have entered these three items, press RETURN. This will take you to the Data page, where you will enter the data.

DATA PAGE

A blank Data page will now be displayed. Before entering the budget data the display will look like this.



```
        DEPARTMENT        |BUDGET (THOUSANDS)
--------------------------|----------------------
 1> █                     ! 1>
```

On this display you will enter the actual data as shown below.

Department	Budget (Thousands)
1. ROADS	96
2. EDUCATION	201
3. FIRE/POLICE	190
4. SOC. SERV.	160
5. SANITATION	85
6. MISCELLANEOUS	45

First, type in the word ROADS and press RETURN. The word ROADS should appear in the left-hand column of row one.

Next, type the budget amount for Roads (96) and press RETURN.

The cursor will now be in the left-hand column of row 2. Type in the word EDUCATION and press RETURN to move the cursor to the right hand column and then enter the Education Budget (201).

As the cursor moves down the page, you can enter all six lines of information from our table. If you have made no mistakes in your typing, you are ready to go on. If you have made a mistake, move the cursor back to the beginning of the line you wish to retype. You can do this by pressing the left arrow key. This moves the cursor step-by-step up the Data page. The RETURN key will move the cursor back down the page.

More instructions for changing data can be found in the section on File Editing.

EXIT FROM DATA PAGE

When you have finished typing in the last data item, press RETURN to enter it into memory. Then press ESC to return to the Main Menu.

SAVING DATA FILES

After creating a new file, you can save it on a disk. Saving a data file on disk allows you to recall it at a later date to display, edit or print it.

DATA-PLOT files can be saved only on disks which have been initialized using the DATA-PLOT system disk. Refer to the Disk Utilities section for details.

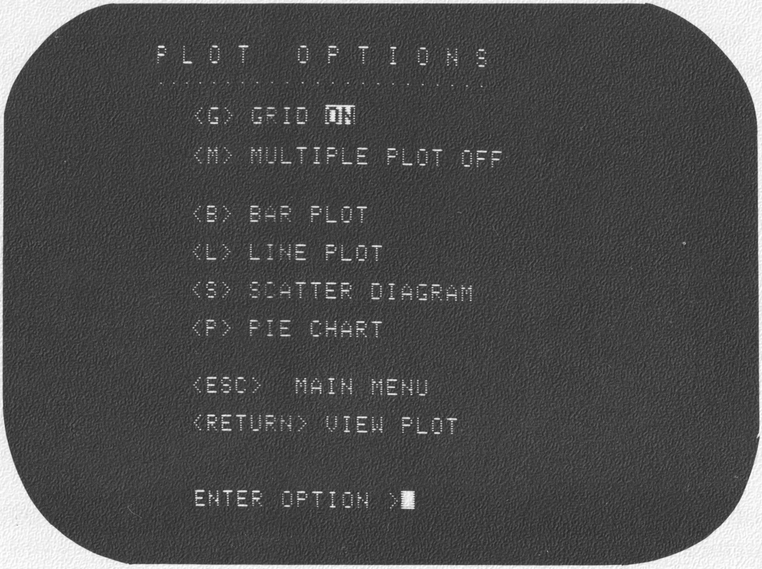
To save the CITY BUDGET data to a disk file, select Main Menu option 4. A catalog of the files saved on the disk will be displayed.

At the bottom of the page, you will see the cursor next to the word FILE. This prompts you to type the name that you want the file to be cataloged under. Enter the file name CITY BUDGET and press RETURN. The file name does not have to be the same as the graph title.

After the data is saved on the disk you will be returned to the Main Menu display.

HOW TO PLOT YOUR DATA

Select Main Menu option 3 to plot your data on the CITY BUDGET. This takes you to the Plot Options page.



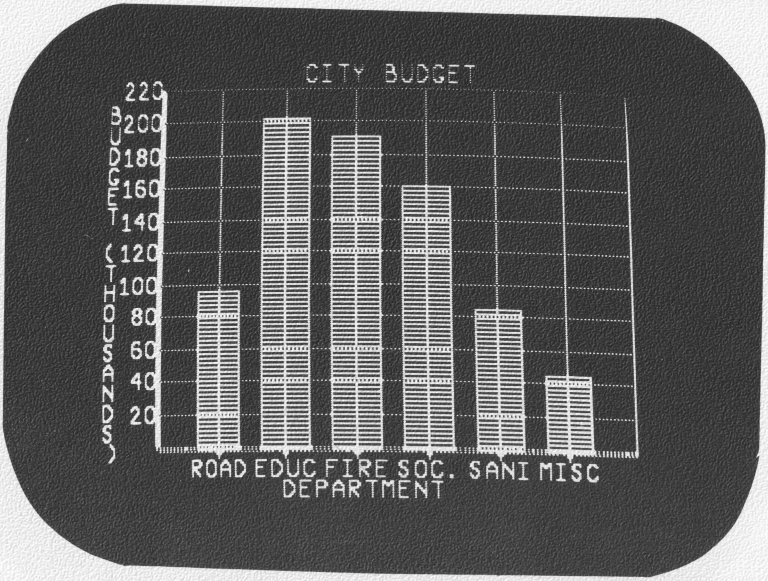
```
P L O T   O P T I O N S
.........................

<G> GRID ON
<M> MULTIPLE PLOT OFF

<B> BAR PLOT
<L> LINE PLOT
<S> SCATTER DIAGRAM
<P> PIE CHART

<ESC>  MAIN MENU
<RETURN> VIEW PLOT

ENTER OPTION >█
```

GRID ON or OFF. You should first note whether the grid is on or off. For a single plot, you will generally want it on. For some types of plots, especially for multiple plots, you will want it off. Press G to toggle the grid on or off.

MULTIPLE PLOT ON or OFF. This will always be in the off position when you enter the Plot Menu. Pressing the M key toggles the multiple plot on or off. When the multiple plot is ON, the graphics screen is not cleared and there is no rescaling done before the plot. This allows overlays of previous plots.

More about multiple plotting later. First let's examine the type of single graphs that are available.

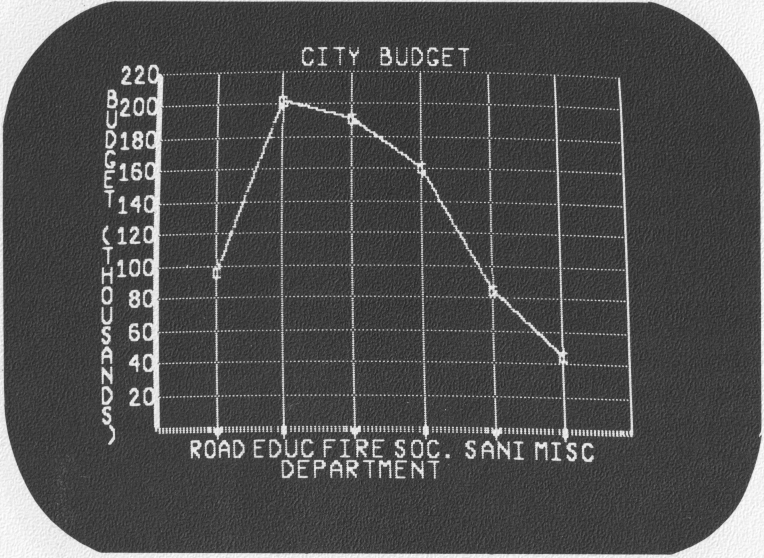
BAR PLOT. Please press B to produce a bar plot of your data.



Bar Plot of City Budget Data

The bar graph mode allows up to 99 data points.

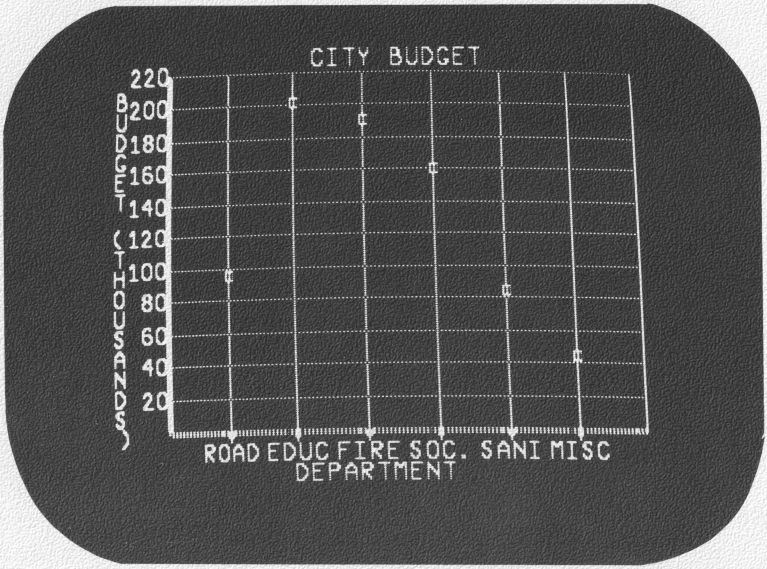
LINE PLOT. Return to the Main Menu by pressing ESC, then go to the Plot Options page by pressing 3. Then press L for a Line Plot of the City Budget data.



Line Plot of City Budget Data

The line plot mode allows up to 99 data points.

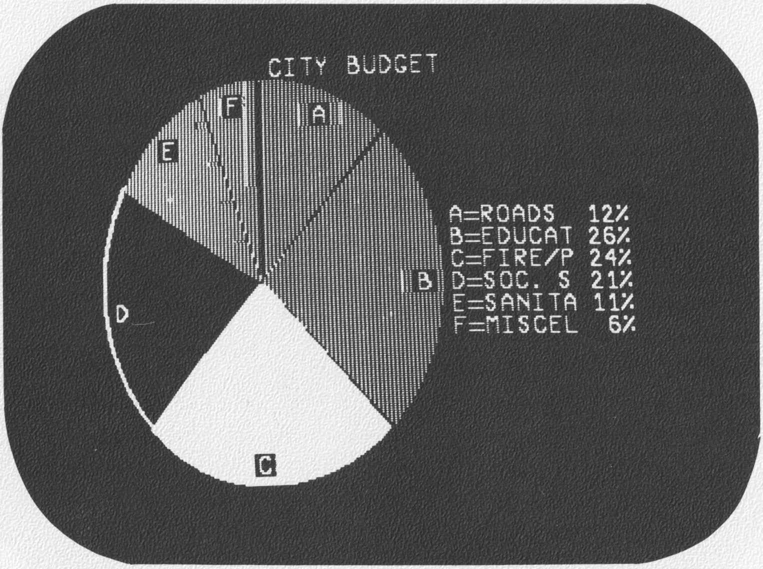
SCATTER DIAGRAM. A scatter diagram uses little squares or dots to represent your data. Press S from the Plot Options page to produce a scatter diagram.



Scatter Diagram of City Budget Data

The Scatter diagram mode allows up to 99 data points.

PIE CHART. Press P from the Plot Options page to produce a pie chart .


CITY BUDGET
A
B
C
D
E
F
A=ROADS 12%
B=EDUCAT 26%
C=FIRE/P 24%
D=SOC. S 21%
E=SANITA 11%
F=MISCEL 6%

Pie Chart of City Budget Data

After the pie chart is completely drawn, you can press the percent (%) key to get the percentage printed out next to the label descriptors.

The pie chart plots up to 25 data points. For more than 25 data points use a bar or line plot. The pie chart is not affected by the grid on/off or the multiple plot off/on status.

MULTIPLE LINE PLOTTING. With the DATA-PLOT system you can graph any combination of bar, line and/or scatter graphs over each other. This will take a little planning but the results will be worth it.

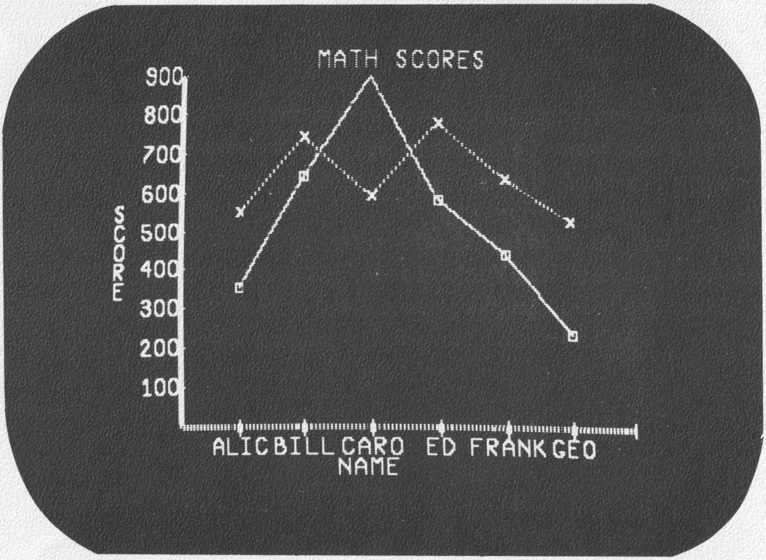
1. Load or enter the data for your first graph. On the File Identification Page, be sure your labels are appropriate for all the individual graphs you will be plotting together.

2. Plot this data as a line graph, then press ESC to return to the Main Menu.

3. Load or enter the next set of data.

4. Return to the Plot Options page and press M to turn the multiple plot ON. Press L to plot this second set of data over the first one.

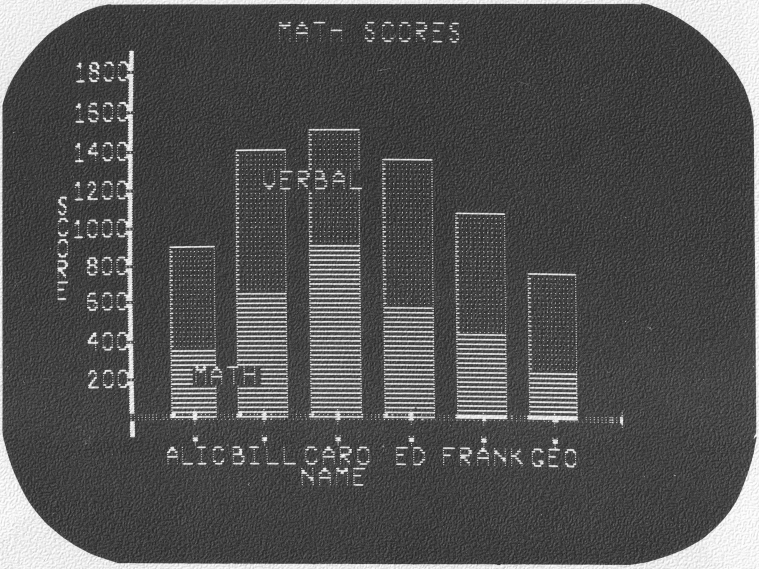
Your second and subsequent plots will be superimposed on your first plot as long you press M (multiple plot ON) BEFORE you press B, L, or S.



Multiple Line Plot - Math vs. Verbal Scores

Multiple plots can be produced with line plots, bar plots, scatter diagrams or any combination of these.

For a multiple Bar plot, the values in the second file are added to the corresponding values in the first (or preceding) file. The following illustrates multiple bar plots.



Multiple Bar Plot with Math vs. Verbal Scores

When using the multiple BAR plot, the minimum value on the first plot should be set to zero (0) and the maximum value should be set high enough to allow for the cumulative 'stacking' of subsequent bars. (See page 33 for setting MIN and MAX).

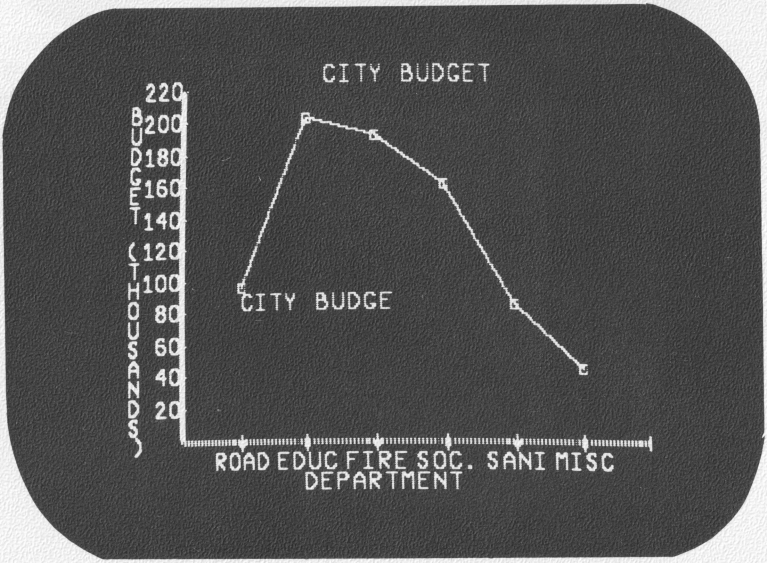
STATISTICS

To display the mean and standard deviation of the y variable, press S when the graph is displayed on the screen.

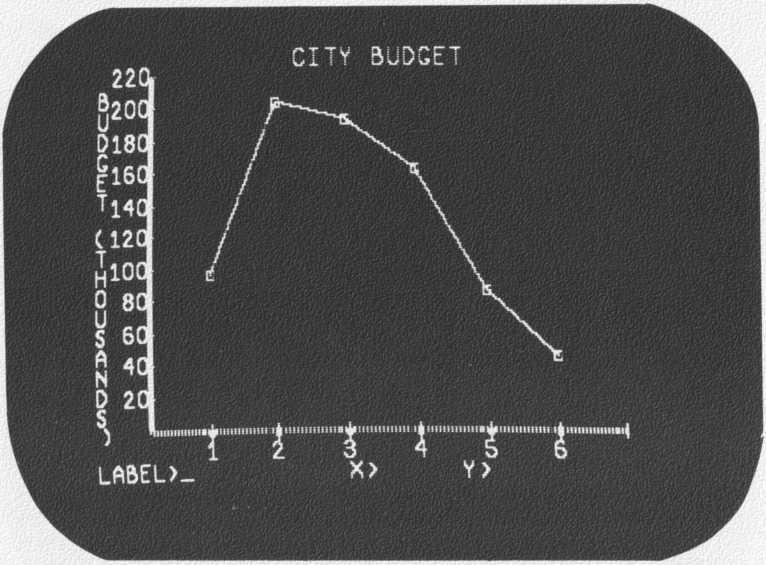
ADDITIONAL LABELING OF THE GRAPH

Sometimes it is helpful to label the lines or bars of the graph. Labeling can aid in interpreting the graph and avoid confusion especially when multiple plots are used. With DATA-PLOT, there are two methods for labeling.

AUTO LABELING. Auto labeling places the first 10 characters of the file name to the left and below the graph. To Auto Label your graph, press A when the graph is displayed on the screen.



MANUAL LABELING. Use manual labeling to place labels exactly where you want them. To manually label a graph, press L when the graph is displayed on the screen. The x-axis labels will disappear and you'll see:


CITY BUDGET
BUDGET (THOUSANDS)
220
200
180
160
140
120
100
80
60
40
20
1
2
3
4
5
6

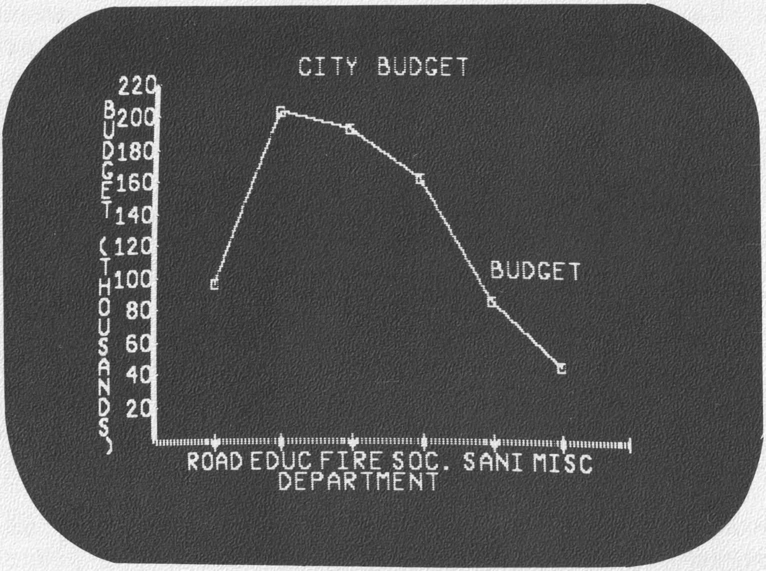
```
LABEL>_          X>        Y>
```

Simply enter the desired label and its starting x and y coordinates as prompted. You can use a maximum of ten (10) characters for the label name. The x and y positions must be within the graph boundaries.

For example, to place the label BUDGET at position x=5 and y=100, enter the following responses on the label prompt line.

```
LABEL>BUDGET      X>5    Y>100
```

After the label and coordinates are entered the x-axis labels will be redrawn.



TO VIEW WHAT WAS DRAWN PREVIOUSLY.

From the Plot Options page you can view the last graph drawn by pressing RETURN.

TO RETURN TO THE MAIN MENU.

You can always return to the Main Menu by pressing ESC.

SAVE A PICTURE FOR FUTURE REFERENCE

Any graph or multiple plot displayed on the screen can be saved as a 'picture'. Picture files cannot be re-plotted by DATA-PLOT, but a program is included on the disk for that purpose. This feature allows you to re-display a complex graph without going through the steps that may have been used to create the original.

To save any picture that has been created on the high resolution graphics screen, select Main Menu option 4. When you are prompted for file name, type PIX and press RETURN.

You will then be prompted to type in NAME OF PICTURE. Type in the name of the picture and press RETURN. This is the name that you will use to retrieve this graphic image.

You can display your stored pictures by using a program on the DATA-PLOT program disk. The program is called PICTURE SHOW. See the section on the Picture Show Program for details.

HOW TO EDIT A FILE

From the Main Menu, press 1 to go to the Catalog Display page. The names of all the files on this disk will be displayed. For this example we will load and edit the DEMO file.

To load the DEMO file type in the file name DEMO at the bottom of the catalog display and press RETURN. After the file is loaded you will be returned to the Main Menu. The line at the bottom should now say:

FILE: DEMO

This shows you have "loaded" the DEMO file into memory. You are now ready to work with this file again.

To examine the file, select Main Menu option 2. This will display the File Identification page for the DEMO file again. Then press RETURN to display the data.

At this point, you can edit or change the data.

Let's change Carol's math score from 890 to 790. First, move the cursor down the page by pressing RETURN. When the cursor reaches the item you wish to change (in this case, when it reaches the 890), simply type over the old line to produce the new line. Type 790 directly over the 890 and press RETURN.

Any piece of data can be changed in this way. The left arrow moves the cursor step-by-step up the page and the RETURN key moves it back down the page.

You can also add a completely new line of information. Let's say a new student, Basil, has been tested, and his score was 645. We want to add this student's score in alphabetical order, between the scores of Alice and Bill.

Move the cursor to the beginning of line 2. Now press CTRL-I (for insert). A new, blank line will appear on your data page where Basil's name and score should go. Type in Basil's name and score (645) and press RETURN. In this manner, new lines of data can be added anywhere on the data page.

Sometimes you wish to delete a line of data from a file. Let's say Frank has moved out of your math class and you want to remove his score.

To delete this line, move the cursor down to the beginning of the line containing Frank's name and score. Now press CTRL-D (for delete). Frank's name and score will disappear from the data and the lines below it will move up.

If you have a file with 20 or more lines of information, moving the cursor line-by-line could be time consuming. You can use CTRL-L to move the cursor directly to the line you wish to edit.

For example, to edit line number 6 of the math scores press CTRL-L. Now type 6 and press RETURN. The cursor will move directly to the beginning of that line for editing, deleting or inserting.

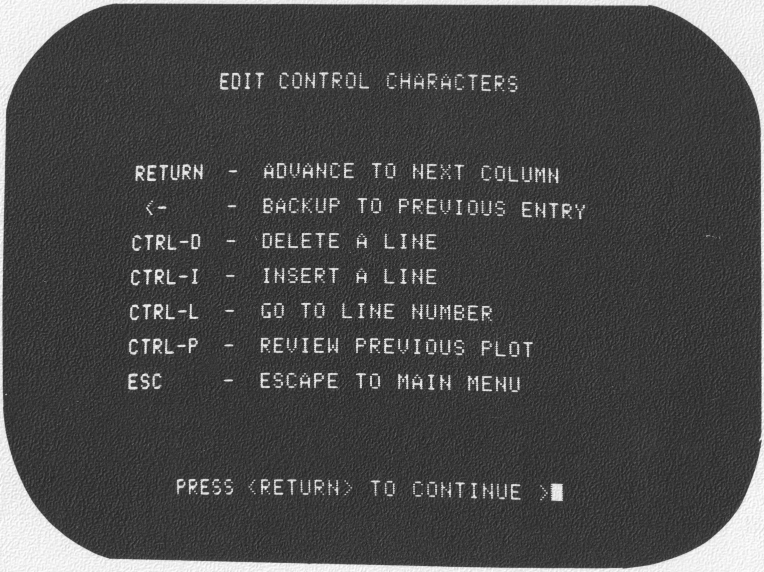
When all the data has been entered, press RETURN and ESC to return to the Main Menu.

TO SAVE THE NEWLY EDITED FILE

From the Main Menu press 4 (save) and a catalog of the disk files will be displayed. At the bottom of the page you will prompted to enter the FILE name. Type in the name you want the file to be catalogued under and press RETURN. After the file is saved on the disk, you will be returned to the Main Menu display.

SUMMARY OF EDITING CONTROL CHARACTERS

You can get the following summary of the editing control characters displayed by pressing CTRL-A (aid), when you are on the Data Page.



```
            EDIT CONTROL CHARACTERS


    RETURN  -  ADVANCE TO NEXT COLUMN
     <-     -  BACKUP TO PREVIOUS ENTRY
    CTRL-D  -  DELETE A LINE
    CTRL-I  -  INSERT A LINE
    CTRL-L  -  GO TO LINE NUMBER
    CTRL-P  -  REVIEW PREVIOUS PLOT
    ESC     -  ESCAPE TO MAIN MENU


       PRESS <RETURN> TO CONTINUE >█
```

PRINTING COPIES OF THE PLOT OR DATA

If you have a TRENDCOM 200 or SILENTYPE thermal printer, you can get a printed listing of your data or a printed copy of the last graph displayed.

Select Main Menu option 5 to activate the print mode. The first time you use the printer you will be asked for the type of printer and the slot number of the printer interface card.

If you have a TRENDCOM 200 Printer you will see the following display:

```
1.   NORMAL SIZE PLOT

2.   DOUBLE SIZE PLOT

3.   LIST DATA ON PRINTER

0.   RETURN TO MAIN MENU
```

If you want a normal size plot (approximately 4.25 x 3.0 inches), press 1. For a double size plot (approximately 8.5 x 6 inches), press 2.

To list the actual data values select option 3 from the Printer Menu.

The options for the SILENTYPE are the same as for the TRENDCOM except the SILENTYPE does not offer double size printing.

When printing is complete, press 0 to return to the Main Menu.

DISK UTILITIES

The Disk Utilities allow you to rename a data file, delete a data file from the disk, initialize a DATA-PLOT Data Disk, or copy a DATA-PLOT Data Disk. Each routine is self explanatory - just choose the function you desire.

This mode is entered from the Main Menu by pressing 6. You will then be presented with the Disk Utilities Menu.

1. RENAME DATA FILE

2. DELETE DATA FILE

3. INITIALIZE DATA DISK

4. COPY DATA DISK

RENAME DATA FILE option allows you to change the name of a data file. The file's contents are unaffected.

DELETE DATA FILE option deletes the file from the diskette.

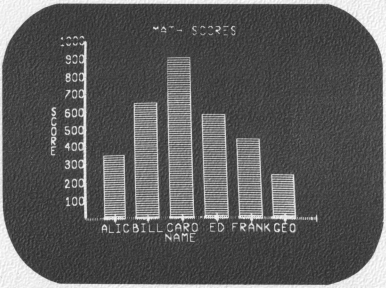
INITIALIZE DATA DISK option allows you to prepare additional disks for saving data files. DATA-PLOT can load or save files only on disks that have been intialized with the DATA-PLOT system disk.

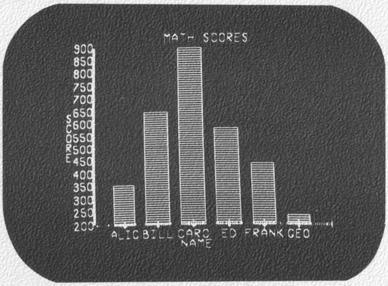
COPY DATA DISK option duplicates your data files, providing you with a "backup" copy. This operation requires two disk drives.

ADJUSTING THE SCALING (MIN and MAX)

Whenever you make a line plot, bar plot, or scatter diagram, DATA-PLOT will scale the y-axis for you. In the DEMO file, for example, DATA-PLOT automatically scaled the y-axis from a minimum of 0 to a maximum of 900.

You may want to adjust the minimum and maximum values of the scale. For example, the following figures are bar plots of the very same data.





In the figure on the left, the scale runs from a minimum (MIN) of 200 to a maximum (MAX) of 900. In the figure on the right, the MIN and MAX are 0 and 1000, respectively.

CHANGING THE MIN AND MAX

To change the minimum and maximum values of a DATA-PLOT scale, simply insert the following two new lines in the data -

```
            NAME         !         SCORE
    ---------------------!--------------------
     1> *MIN*            ! 1> 200
     2> *MAX*            ! 2> 900
     3> ALICE            ! 3> 350
     4> BILL             ! 4> 640
     5> CAROL            ! 5> 890
     6> ED               ! 6> 575
     7> FRANK            ! 7> 435
     8> GEORGE           ! 8> 235
```

The *MIN* and *MAX* lines can be inserted in any line of the file. However, it is suggested that you place these values at the beginning of your data so they are readily visible.

DATA-PLOT will now plot this file using the scale you have specified.

PICTURE SHOW

A PICTURE SHOW program to display completed graphs or 'pictures' is included on the DATA-PLOT program disk. This program can display any pictures that you have created and saved by using the 'PIX' option when saving a file. (see page 26)

To use this program do the following:

1. Exit from the DATA-PLOT Program by pressing 0 from the Main Menu page.

2. Type: RUN PICTURE SHOW and press RETURN.

3. You will be prompted to type the name of the picture. Type the name under which you saved the picture and press RETURN.

The picture file will be read from disk and displayed on the screen. If you typed a name for a picture which is not on the current catalog, then the catalog will be displayed and you can start over by typing RUN and pressing RETURN.

SUMMARY OF DATA-PLOT FUNCTIONS

LOADING A FILE INTO MEMORY

Starting at the Main Menu, press 1. This takes you to the File Catalog Page. From the files listed, type in the name of the file you wish to load. Press RETURN. DATA-PLOT will load your file.

SWITCHING DISK DRIVES

To load a file from (or save a file to) another drive, enter the desired slot and drive number in the form "S6" or "S62" when prompted for the file name. For example, enter "S62" and press RETURN to display a catalog of files on slot 6 drive 2. DO NOT select drive 2 by typing "S6,D2".

CLEARING A FILE FROM MEMORY

From the Main Menu, press 1. This takes you to the File Catalog Page. Now press RETURN. This will clear DATA-PLOT's memory and return you to the Main Menu.

From the File Identification display, press CTRL-Z. You will then be prompted to press # to clear memory.

EDITING A FILE

From the Main Menu, press 2. This takes you to the File Identification display. Make any changes you wish on this page by moving the cursor to the line you want changed and then type over the line you wish to change.

After completing the File Identification changes, press RETURN and the data will be displayed. Move the cursor down by pressing RETURN or up by pressing the left arrow key. Make changes by overtyping and pressing RETURN, or by using the editing characters listed below.

EDITING CONTROL CHARACTERS

RETURN	- advance to next column
<-	- backup to previous column or page
CTRL-D	- delete a line of data
CTRL-I	- insert a line of data
CTRL-L	- go to line number
CTRL-P	- review previous plot
ESC	- escape to Main Menu

After completing your changes, be sure to save the data to a disk file if the changes are to be permanent.

CREATING A FILE

Clear the current file from memory by pressing 1 and RETURN from the Main Menu.

Press 2. This takes you to the File Identification display. Enter the titles for the x-axis, y-axis and graph.

Press RETURN. This takes you to the Data display. Alternately enter x and y values. Be sure to press RETURN after entering each piece of data. Press ESC to return to the Main Menu.

DATA-PLOT allows a maximum of fifteen (15) characters in the x column. If you type in more than fifteen, the entry will be truncated to the first fifteen characters. In the y column, only real and integer numbers are allowed according to the rules of APPLESOFT.

When the data is plotted, the x-axis labels will be shortened or eliminated as necessary to fit on the screen.

SAVING A DATA FILE

From the Main Menu, press 4. This takes you to the Catalog Display Page.

Type in the name you wish your file to be saved under and press RETURN. The file will then be saved on the disk and you will be returned to the Main Menu.

SAVING A PICTURE

From the Main Menu, press 4. This takes you to the Catalog Display Page.

When asked for the file name type PIX and press RETURN. You will then be prompted to enter the name of the picture. Type in a name and press RETURN. Pictures can be viewed using the Picture Show program on the Data Plot program disk.

PLOTTING A FILE

From the Main Menu, press 3. This takes you to the Plot Options page.

GRID: Press G to turn the grid on or off. Grid on/off has no effect on pie charts.

MULTIPLE PLOTTING: Load and plot your first set of data. Return to the Main Menu and load your second set of data. Then press 3 from the Main Menu to return to the Plot Options. Before plotting, press M (multiple plot ON) and then press either B, L, or S.

BAR PLOT: Press B

LINE PLOT: Press L

SCATTER DIAGRAM: Press S

PIE CHART: Press P

SPECIAL FEATURES: (Immediately after graph is displayed)

AUTO-LABEL: Press A
MANUAL-LABEL: Press L
STATISTICS: Press S
PIE PERCENTAGES Press %

PRINT PLOT OR DATA ON PRINTER

Plot the graph you wish to print on the DATA-PLOT screen. Return to the Main Menu and select option 5. After entering your printer type and slot, select the desired printer option.

NOTE: This option works only with a TRENDCOM 200 or SILENTYPE printer. If you have another type of graphics printer you may be able to create your own software routine to print high-resolution screen 2 ($4000 to $6000 HEX).

TROUBLE SHOOTING GUIDE

ACCIDENTLY PRESSING RESET

If you accidentally press RESET while typing in your data and the program halts, you can still save the data. Type:

GOTO 14000 and press RETURN.

After you have saved your data you will get the error message: RETURN WITHOUT GOSUB. Then type RUN and press RETURN.

DISK FULL

This message indicates that there is no more room on the current disk. You can still save your data or picture by following this procedure:

1. Remove the full DATA-PLOT DISK
2. Place an empty (but initialized) DATA-PLOT DATA DISK into the disk drive
3. Type GOTO 14000 and press RETURN

After you have saved your data you will get the error message: RETURN WITHOUT GOSUB. Then type RUN and press RETURN.

PLOT DRAWN OUT OF RANGE

When data values in the y-axis column are greater than the specified *MAX* or less than the specified *MIN* you will hear a beep (bell) sound at that point which is out of range.

The out of range error can occur when doing multiple plots. The second or subsequent graphs may not be within the range of the first plot. If you want all the graphs to be within range, then do the following:

1. Determine the maximum and minimum data points for all the sets of data to be plotted together by plotting and examining each set of data individually.

2. Load the first set of data.

3. Using the edit mode set the *MIN* and the *MAX* values so that all the data sets to be plotted together will be within the range you determined from step one.

4. Return to the plot mode, be sure to clear screen, and plot the sets of data.

For MULTIPLE BAR PLOTS, the minimum value of the first plot should be zero (0).

NO PRINTOUT ON PRINTER

Make sure the printer is turned on. Next, check to see what slot number the printer interface card is in. If the card is in a different slot than you specified, you must re-load the DATA-PLOT program and enter the correct slot number for the printer interface.

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I = Requires Integer Basic
A = Requires Applesoft ROM

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